MATERIALS

766.40 General.

Materials shall meet the requirements specified in the following Subsections of Division III, Materials.

Fertilizer	M6.02.0
Seed	M6.03.0

CONSTRUCTION METHODS

766.60 General.

Work under this item shall be done in April, May, August or September. No permission will be granted to refertilize in months other than herein prescribed. Areas recently seeded shall be refertilized only after one season of growth of two months duration.

766.61 Application of Fertilizer.

The fertilizer shall have a composition of 10-10-10 and be applied at a rate of 5.5 kilograms per 100 square meters. In addition, organic fertilizer derived from any commercial source shall be applied at the rate of 1.5 kilograms of Nitrogen per 100 square meters.

766.62 Seed.

Seed shall be included with the fertilizer at a rate of 0.12 kilograms per square meter.

COMPENSATION

766.80 Method of Measurement.

The quantity of refertilization shall be the number of square meters based on actual measurements made over the general contour of the seeded areas, complete in place.

766.81 Basis of Payment.

The work under this item will be paid for at the contract unit price per square meter, complete in place, which price shall include all labor, materials and equipment necessary to do the required work.

766.82 Payment Items.

766.	Refertilization	Square Meter

SECTION 767

MULCHING; SEED FOR EROSION CONTROL

DESCRIPTION

767.20 General.

This work shall consist of furnishing and placing hay, straw, wood chip, wood fibre or aged pine bark mulch, as particularly specified, in the required amounts on the areas indicated on the plans or as directed.

MATERIALS

767.40 General.

Materials shall meet the requirements specified in the following Subsections of Division III, Materials.

Hay Mulch	M6.04.1
Straw Mulch	M6.04.2
Wood Chip Mulch	M6.04.3
Wood Fibre Mulch	M6.04.4
Aged Pine Bark Mulch	M6.04.6
Seed for Erosion Control	M6.03.1

Bales of Hay for Erosion Control shall be fastened with wire and have a minimum size of 300 millimeters x 450 millimeters x 900 millimeters.

CONSTRUCTION METHODS

767.60 Preparation for Mulching.

The areas upon which mulch is to be spread shall be prepared by raking, harrowing or dragging to form a reasonably smooth surface. All stones larger than 50 millimeters, undesirable growth over 50 millimeters in height and all debris shall be removed from the area and disposed of by the Contractor in a satisfactory manner. The disposal area shall be outside the location limits of the project, when required by the Engineer and shall be the responsibility of the Contractor without additional compensation.

When required by the Engineer, the Contractor shall spread, compact and grade additional acceptable material to repair gullies or depressions. Such additional material shall be obtained from suitable excavation or furnished by the Contractor under Item 150, Ordinary Borrow. The labor and equipment required to furnish and place the additional material shall be paid for under the respective item from which the material is obtained without additional compensation.

Grading preparatory to mulching will be included for payment under respective items of mulching.

767.61 Placing Mulch.

Hay or Straw Mulch shall be loosely spread to a uniform depth over all areas designated on the plans, at the rate of 100 kilograms per 100 square meters, except over certain seeded areas where 45 kilograms of hay per 100 square meters shall be used, or as otherwise directed.

Hay or Straw Mulch may be applied by mechanical apparatus, if in the judgment of the Engineer the apparatus spreads the mulch uniformly and forms a suitable mat to control slope erosion. The apparatus shall be capable of spreading at least 80% of the hay or straw in lengths of 150 millimeters or more, otherwise it shall be spread by hand without additional compensation.

Wood Chip Mulch and Aged Pine Bark Mulch shall be loosely spread to a uniform depth over all areas designated on the plans, at the rate of 7.5 cubic meters per 100 square meters (approximately 75 millimeters in depth), or as otherwise directed.

Wood Chip Mulch and Aged Pine Bark Mulch may be applied by mechanical means, except that if the equipment breaks the mulch into small pieces or changes its desired texture, as determined by the Engineer, it shall be spread by hand without additional compensation.

Wood Fibre Mulch shall be uniformly spread over certain seeded areas at the minimum rate of 16 kilograms per 100 square meters unless otherwise directed. It shall be placed by spraying from an approved spraying machine having pressure sufficient to cover the slopes from bottom to top in one operation. Immediately before spraying, the mulching material shall be mixed with water in the sprayer and kept uniformly suspended in the water by agitation during the spraying operation.

767.62 Hay Mulch with Seed for Erosion Control.

The intent of these items is the prevention of slope erosion. If the sequence of operations is such that only

portions of slopes have been completed, such portions shall be preserved by seeding and mulching when directed prior to completion of the remaining portions of the slope.

The work to be done under the above items consist of applying seed and hay mulch onto slopes that have been graded and completed to the required line and grade at locations designated on the plans and as directed by the Engineer.

The operations shall be separate with the seed applied first. This work may be applied by hand or by mechanical apparatus, if in the Engineer's judgment, the apparatus spreads the materials uniformly and does not break the hay mulch into fine or small particles or otherwise change the desired texture of the hay mulch.

The seed shall be uniformly applied at the rate of 0.85 kilograms per 100 square meters.

767.63 Bales of Hay for Erosion Control.

Bales of hay shall be supplied and placed along the bottom of slopes, ditches and where directed. The bales shall be securely fastened in place by staking or pinning as shown on the plans or in a manner approved by the Engineer.

During the course of construction, it may be necessary to remove and relocate or replace bales of hay as directed.

The removal of collected sedimentation and debris from behind these bales and disposal of same is included in this item.

The bales shall remain in place until the removal is directed by the Engineer. The bales shall then become the Contractor's property and shall be disposed of off the site.

COMPENSATION

767.80 Method of Measurement.

Hay Mulch and Straw Mulch, applied as required, will be measured by the metric ton delivered on the project as determined from certified weight slips.

Wood Chip Mulch and Aged Pine Bark Mulch will be measured by the cubic meter based on either truckload measurement as delivered on the project or in place measurement, the method of measurement to be determined by the Engineer.

If truckload measurement is used, wood chip mulch taken from this measured volume for mulching trees and shrubs other than placed in mass planting areas will be deducted on the basis of the volume of chips placed over the rated size of each planting pit at a depth of 100 millimeters.

No deduction shall be made in mass planting areas for wood chip mulch ordinarily included in the unit price of the trees or shrubs planted therein.

Wood Fibre Mulch will be measured by the metric ton delivered on the project, as determined from the net weight certified by the manufacturer on the containers, or as determined from weight slips accompanying delivery.

Bales of Hay for Erosion Control will be measured by the unit in place, each.

Ordinary Borrow will be measured as specified in Subsection 150.80 or by truck load measurement, as directed by the Engineer.

Seed for Erosion Control will be measured by the kilogram.

767.81 Basis of Payment.

Hay Mulch, Straw Mulch and Wood Fibre Mulch will be paid for complete in place at the contract unit price per metric ton under the item for the particular type of mulch.

Wood Chip Mulch will be paid for complete in the place at the contract unit price per cubic meter.

Aged Pine Bark Mulch will be paid for complete in place at the contract unit price per cubic meter.

Bales of Hay for Erosion Control will be paid for each, which shall include all labor, material and equipment necessary to place the bales, relocate as directed and finally remove and dispose of the bales including the removal of sedimentation from behind the bales of hay.

Replacement of Bales of Hay, when directed, will be paid for each.

Ordinary Borrow will be paid for complete in place at the contract unit price per cubic meter.

Seed for Erosion Control will be paid for at the contract unit price per kilogram.

767.82 Payment Item.

767.	Hay Mulch	Metric Ton
767.3	Straw Mulch	Metric Ton
767.4	Wood Chip Mulch	Cubic Meter
767.5	Wood Fibre Mulch	Metric Ton
767.6	Aged Pine Bark Mulch	Cubic Meter
767.8	Bales of Hay for Erosion Control	Each
765.2	Seed for Erosion Control	Kilogram
150.	Ordinary Borrow	Cubic Meter

SECTION 769

PAVEMENT MILLING MULCH UNDER GUARD RAIL

DESCRIPTION

769.20 General.

This work shall consist of placing a geotextile fabric under guard rail and placing 100 millimeters of pavement millings on top of the fabric.

MATERIALS

769.40 General.

Pavement millings are to consist of recently milled asphalt concrete pavement. The milled material shall meet the following gradation requirements:

Square Opening Sieve	Percent Passing by Weight
37.5 mm	100
25.0 mm	85 - 100
12.5 mm	10 - 50
4.75 mm	0 - 10

The geotextile fabric shall conform to Department Material Specification M9.50.0 Type IV Fabric.

CONSTRUCTION

769.61 General.

The mulched area will generally be 1 meter wide and start at the back of the berm, sloped edging, curb or edge of roadway pavement. In end treatment areas where the guard rail is set back from the edge of roadway, the mulch will extend from the edge of roadway to 150 millimeters behind the back of the guard rail posts.

769.62 New Guard Rail.

Where the milling mulch is being placed at locations of new guard rail installation, the fabric and millings shall be placed prior to placing the guard rail. When posts are to be driven, the millings shall be moved aside in the vicinity of the post, the fabric cut, and then the posts shall be driven.

After the posts are driven, the millings shall be raked closely around the posts.